

**BY ORDER OF THE CHIEF,
NATIONAL GUARD BUREAU**



MANPOWER STANDARD 21C1A3

28 AUGUST 2003

Manpower Standard

ENGINE MANAGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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Pages: 7

Distribution: F

This Air National Guard Manpower Standard (ANGMS) quantifies the manpower required to accomplish the tasks described in the position oriented description (POD) for varying levels of workload in the 189th Airlift Wing whose mission it is to provide aircrew training for students from each branch of the military that flies the C-130 aircraft and from 27 foreign countries. This standard applies to the 189thth Airlift Wing, Little Rock Air Force Base, Arkansas, and encompasses all major processes performed within the Engine Management function. It does not apply to any other units. This standard is applicable to peacetime operations only. The Air National Guard (ANG) is authority for the approval and publication of ANG Manpower Standards. Air Force (AF) and ANG directives contain policy and procedural guidance for the operation of Engine Management. This standard was developed in accordance with AF Instruction (AFI) 38-201, *Determining Manpower Requirements*, and AF Manual (AFMAN) 38-208, Volume 1, *Air Force Management Engineering Program (MEP) Processes*, and AFMAN 38-208, Volume 2, *Air Force Management Engineering Program (MEP) - Quantification Tools*. Send comments and suggested improvements on AF IMT 847, *Recommendation for Change of Publication*, through channels, to ANG, Management Engineering Branch (ANG/XPME / Operating Location TN [OLTN]), 106 Briscoe Drive, McGhee Tyson Air National Guard Base, TN 37777-6283.

1. STANDARD DATA.

1.1. Approval Date: 28 August 2003.

1.2. Man-hour Data Sources: The Operational Audit (historical record and technical estimate) technique was used to collect/determine man-hour/manpower data.

1.3. Standard Manpower Equation: $Y = 23.66 + 2.049X$.

1.4. Workload Factor.

1.4.1. Title: X= Primary Aircraft Inventory (PAI) Engines Authorized.

1.4.2. Definition: Number of PAI engines authorized to support the unit training mission.

1.4.3. Source: Standard Record Account Inventory within the Comprehensive Engine Management System (CEMS) maintained by ANG, Logistics Maintenance (ANG/LGMM).

1.5. Points of Contact.

1.5.1. Functional: Col John J Samuhel, 189 MX/CC

1.5.2. Manpower: George W. Tatum III, ANG/XPME/OLTN

2. Application Instructions.

2.1. Equation: Apply the equation in Paragraph 1.3., to determine the required man-hours.

2.2. Man-Hour Availability Factor (MAF): Divide the resulting man-hours by the appropriate MAF/overload factor. The answer, rounded up, will quantify the required manpower.

2.3. Upper and Lower Extrapolation Limits:

2.3.1. $Y_U = 142.263$.

2.3.2. $Y_L = 85.358$.

3. STATEMENT OF CONDITIONS. The normal hours of operation for this function are 80 hours per two-week period. The alternate work schedule of eight nine hour days, and one eight hour day is the norm. No environmental, equipment, or facility conditions affect this Manpower Standard.

DANIEL JAMES III, Lieutenant General, USAF
Director, Air National Guard

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION***References*

AFI 38-201 *Determining Manpower Requirements*

AFMAN 38-208, Volume 1, *Air Force Management Engineering Program (MEP)-Process*

AFMAN 38-208, Volume 2, *Air Force Management Engineering Program (MEP)-Quantification Tools*

AFMS 00AA, *Standard Indirect Description*

Abbreviations and Acronyms

AF - Air Force

AFMS - Air Force Manpower Standard

AGE - Aerospace Ground Equipment

ANG - Air National Guard

ANGMS - Air National Guard Manpower Standard

ANGRC - Air National Guard Readiness Center

CANN - Component Cannibalization

CDB - Central Data Base

CEMS - Comprehensive Engine Management System

EOT - Engine Operating Time

IBEMS - Engine Management System

I-DECKS - Initialization Decks

IMT - Information Management Tool

JML - Job Standard Master Listing

MAF - Man-Hour Availability Factor

MEP - Management Engineering Program

MIS - Maintenance Information System

MSI - Manpower Standards Implementation

PAI - Primary Aircraft Authorized

POD - Process Oriented Description

TCI - Time Change Items

TCTO - Time Compliance Technical Orders

UMD - Unit Manpower Document

UTA - Unit Training Assembly

Terms

Air National Guard Manpower Standard (ANGMS). A numbered, specialized publication that quantifies manpower requirements for a work center, it also includes approved variances. See AFI 38-201.

Man-Hour. A unit of measuring work. It is equivalent to one person working at a normal pace for 60 minutes, two people working at a normal pace for 30 minutes, or similar combination of people working at a normal pace for a period of time equal to 60 minutes.

Manpower Standard. The basic tool used to determine the minimum level of manpower required to support a function. It is a quantitative expression that represents a work center's man-hour requirements in response to varying levels of workload.

Process Oriented Description. A format that shows work center responsibilities structured for easy measurement of work categories, tasks and subtasks.

Attachment 2

**PROCESS ORIENTED DESCRIPTION
ENGINE MANAGEMENT**

Table A2.1. Listing of Functional Processes.

1.	ENGINE MANAGEMENT:
1.1.	ATTENDS DAILY PRODUCTION MEETING.
1.2.	PLANS, SCHEDULES, AND DOCUMENTS MAINTENANCE ACTIONS ON ASSIGNED ENGINES AND COMPONENTS.
1.3.	PROVIDES TIME CHANGE ITEMS (TCI) INFORMATION ON CONTROLLED ITEMS FOR ENGINE COMPONENT CANNIBALIZATION (CANN) ACTIONS.
1.4.	LOADS AND TRACKS ALL ENGINE/MODULE TCIS TRACKED BY ENGINE OPERATING TIME (EOT) IN THE MAINTENANCE INFORMATION SYSTEM (MIS) AND COMPREHENSIVE ENGINE MANAGEMENT SYSTEM (CEMS) DATABASE.
1.5.	MANAGES TIME COMPLIANCE TECHNICAL ORDERS (TCTO) ON ALL ASSIGNED ENGINES AND COMPONENTS.
1.6.	ACCOMPLISHES QUARTERLY TCTO STATUS REVIEWS AND RECONCILIATION REPORTS.
1.7.	MONITORS TCTO KITS/PARTS STATUS.
1.8.	MANAGES TIME CHANGE ITEMS ON ALL ENGINES AND COMPONENTS.
1.9.	SCHEDULES TCIS AND SUBMITS REQUESTS TO SUPPLY.
1.10.	MAINTAINS AND UPDATES HISTORICAL RECORDS.
1.11.	PERFORMS AND DOCUMENTS ANNUAL REVIEW OF HISTORICAL RECORDS.
1.12.	MAINTAINS AUTOMATED MANAGEMENT PRODUCTS, FLOW CHARTS AND PRODUCTION VISUAL AIDS.
1.13.	MONITORS LIFE-LIMITED COMPONENTS FOR FORCAST CHANGE.
1.14.	VERIFIES ENGINE TOTAL TIME VERSUS AIRCRAFT TOTAL TIME WITH PLANS, SCHEDULING, AND DOCUMENTATION DURING AIRCRAFT DOCUMENT REVIEWS.

1.15.	MAINTAINS THE JOB STANDARD MASTER LISTING (JML) FOR ENGINE/COMPONENT INSPECTIONS AND TIME CHANGES.
1.16.	MAINTAINS A CEMS AND MIS CONTINGENCY PLAN FOR SYSTEM DOWN TIMES.
1.17.	MAINTAINS DEPLOYABLE ENGINE MANAGEMENT PROCEDURES AND DOCUMENTATION METHODS.
1.18.	ACCOMPLISHES QUARTERLY INVENTORY REPORT WITH CEMS CENTRAL DATA BASE (CDB).
1.19.	PROVIDES TRAINING FOR ALTERNATE BASE ENGINE MANAGER.
1.20.	ESTABLISHES PROCEDURES TO SUPPORT ENGINE MANAGEMENT RESPONSIBILITIES.
1.21.	REQUESTS INITIALIZATION DECKS (I-DECKS) FROM CEMS AND ENSURES DATA IN THE MIS IS CORRECT.
1.22.	RECEIPTS AND SHIPS ENGINES.
1.23.	COORDINATES ENGINE REPLACEMENT REQUIRED AT DEPOT.
1.24.	PROVIDES AIR NATIONAL GUARD READINESS CENTER (ANGRC) WEEKLY ENGINE STATUS REPORT.
1.25.	MAINTAINS BASE ENGINE MANAGEMENT SYSTEM (IBEMS) COMPUTER SUPPORT PROGRAMS.
2.	UNIT TRAINING ASSEMBLY (UTA) PREPARATION.
3.	INDIRECT. Indirect work involves those tasks that are not readily identifiable with the work center's specific product or service. The major categories of standard indirect work are: Administers Civilian, Officer, and Enlisted Personnel; Directs Work Center Activity; Provides Administrative Support; Prepares for and Conducts/Attends Meeting; Administers Training; Manages Supplies; Maintains Equipment; and Performs Cleanup.

Attachment 3**MANPOWER TABLE****A3.1. Standard Manpower Table**

Air Force Specialty Title	AFSC	Grade	Manpower Requirement
Aerosp Maint	2A5XX	Civ	1
Total			1

NOTE. AFSCs may be adjusted at the discretion of the Commander.